

LISTING OF THE CLAIMS

This listing of claims replaces all prior versions, and listings of claims in the application:

1. (Currently Amended) A data cartridge library comprising: a frame that defines an interior space; a data cartridge magazine, operatively attached to said frame and located within said interior space, for providing a plurality of data cartridge storage spaces; a drive, operatively attached to said frame and located within said interior space, for writing data onto a recording medium located within a data cartridge and/or reading data from a said recording medium located within a said data cartridge; a transport assembly, operatively attached to said frame and located within said interior space, for moving a said data cartridge between said data cartridge magazine and a said drive that might be located in said drive bay, wherein said transport assembly comprises a picker that is capable of grasping a said data cartridge and an elevator for moving said picker; an entry/exit port that allows an entry/exit port magazine to be moved between an exterior space that is outside of said frame and said interior space; wherein said entry/exit port comprises a mount to which ~~an~~ said entry/exit port magazine can be attached and from which ~~an~~ said entry/exit port magazine can be detached, a guide for constraining said mount to move between a first position at which a user can attach/detach ~~an~~ said entry/exit port magazine to/from said mount and a second position at which said transport assembly is capable of inserting/removing a said data cartridge into/from ~~an~~ said entry/exit port magazine attached to said mount, a motive device for providing a motive force for moving said mount between said first and second positions, and a first stop structure that is attached to said mount and engages a second stop structure to prevent said motive device from moving said mount beyond said first position; and a quick release that allows said first stop structure to be readily detached from said mount so that said mount can be removed from the library.

2. (Currently Amended) A The data cartridge library, as claimed in claim 1, wherein: said quick release structure comprises a screw.

3. (Currently Amended) A data cartridge library comprising: a frame that defines a top surface, a bottom surface that is spaced from said top surface, and a side surface that extends between said top and bottom surfaces; wherein said top, bottom and side surfaces define an interior space; a data cartridge magazine, located within said interior space, that is capable of holding a plurality of data cartridges; a drive, located within said interior space, for writing data onto a recording medium located within a one of said plurality of data cartridges and/or reading data from a said recording medium located within a one of said plurality of data cartridges; a transport assembly, located within said interior space, for moving a one of said plurality of data cartridges between said data cartridge magazine and said drive, wherein said transport assembly comprises a picker that is capable of grasping a one of said plurality of data cartridges and an elevator for moving said picker within a portion of said interior space; and a user interface that is associated with said side surface and exposed to an exterior environment; wherein said side surface comprises a displaceable portion that is capable of being placed in: (a) an "open" state that allows a user to access said data cartridge magazine and said drive through said interior space, and (b) a "closed" state that prevents a user from accessing said data cartridge magazine and said drive through said interior space; wherein said displaceable portion defines an opening for a said user interface; a user-actuatable connector that allows a said user to: (a) place said displaceable portion in said "closed" state, and (b) place said displaceable portion in said "open" state; wherein said user-actuatable connector does not constrain said displaceable portion to rotate about an axis when moving between said "closed" and "open" states.

4. (Currently Amended) A The data cartridge library, as claimed in claim 3, wherein: said user-actuatable connector comprises a screw.

5. (Currently Amended) A The data cartridge library, as claimed in claim 3, wherein: said user-actuatable connector comprises a captured screw.

6. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein: said user-actuable connector comprises a group of screws.

7. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein: said user-actuable connector comprises a group of captured screws.

8. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein: said connector comprises a buckle.

9. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein: said connector comprises a clasp. (Can write consists on one of the following) and get 6 claims!

10. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein: said user interface comprises an entry/exit port that allows a said user to insert/remove a one of said plurality of data cartridges into/from the interior space.

11. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein: said user interface comprises an electronic display that allows a said user to obtain information about the library.

12. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein: said user interface comprises an input device that allows a said user to direct an operation of the library.

13. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein: said user interface comprises: an entry/exit port that allows a said user to insert/remove a one of said plurality of data cartridges into/from the interior space; an electronic display for providing a said user with information; an input device that allows a said user to direct an operation of the library.

14. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein:
said displaceable portion comprises a screen.

15. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein:
said displaceable portion comprises a window.

16. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, wherein:
said displaceable portion comprises a metal portion and a plastic portion.

17. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 3, further
comprising: a rail mount for mounting a rail that facilitates the association of the library
with a rack.

18. (Canceled)

19. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim
~~18~~ 34, wherein: said second channel structure comprises an end portion that connects said
first and second portions.

20. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim
~~18~~ 34 wherein: said end portion does not form a substantial portion of said back side.

21. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim
~~18~~ 34, wherein: said second channel structure comprises: a first end portion that connects
said first and second portions; and a second end portion that is separated from said first
end portion and connects said first and second portions.

22. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim
21, wherein: said first and second end portions each do not form a substantial portion of

said back side.

23. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim ~~18~~ 34, wherein: said first channel structure comprises: a first channel structure first surface that forms a substantial portion of said first side of said channel structure; and a first channel structure second surface that forms a portion of said back side of said channel structure.

24. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim 23, wherein: said coupler comprises: a said first coupler element that is associated with said first channel structure first surface; and a ~~second~~ third coupler element that is associated with said first portion of said first side formed by said second channel structure.

25. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim 24, wherein: said first coupler element comprises a recess/hole.

26. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim 24, wherein: said first coupler element comprises a flange.

27. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim ~~18~~ 34, wherein: said first channel structure comprises: a first channel structure first surface that forms a portion of said first side of said channel; a first channel structure second surface that forms a portion of said second side of said channel; and a first channel structure back surface that forms a ~~substantial~~ portion of said back side of said channel.

28. (Currently Amended) ~~A~~ The multi-piece data cartridge magazine, as claimed in claim 27, wherein: said coupler comprises: a said first coupler element that is associated with said first channel structure first surface; a ~~second~~ third coupler element that is associated

with said first channel structure second surface; a ~~third~~ said second coupler element that is associated with said first portion of said first side formed by said second channel structure; and a fourth coupler element that is associated with said second portion of said second side formed by said second channel structure.

29. (Currently Amended) A ~~The~~ multi-piece data cartridge magazine, as claimed in claim ~~18~~ 34, wherein: said portion of said back side comprises a stand-off structure for one of said data cartridges so that when a said data cartridge that is properly positioned within said channel structure, a first surface of the data cartridge contacts said stand-off structure and a second surface of the data cartridge that is opposite from said first surface is at a predetermined distance from said back side.

30. (Currently Amended) A ~~The~~ multi-piece data cartridge magazine, as claimed in claim ~~18~~ 34, wherein: said first channel structure is made of metal.

31. (Currently Amended) A ~~The~~ multi-piece data cartridge magazine, as claimed in claim ~~18~~ 34, wherein: said second channel structure comprises a retainer for engaging a surface associated with one of said data cartridges so as to hold the data cartridge within said channel structure.

32. (Currently Amended) A ~~The~~ multi-piece data cartridge magazine, as claimed in claim ~~18~~ 34, wherein: said second channel structure is made of plastic.

33. (Currently Amended) A ~~The~~ multi-piece data cartridge magazine, as claimed in claim ~~18~~ 34, wherein: said second channel structure comprises a plurality of separation structures that each comprise an end portion that connects said first and second portions and does not form a substantial portion of said back side.

34. (Currently Amended) A multi-piece data cartridge magazine that is suitable for use with a data cartridge library comprising: a channel structure that defines an interior space

that is capable of accommodating a plurality of data cartridges; wherein said channel structure comprises a first side with a first side interior surface and a first side exterior surface; wherein said channel structure comprises a second side with a second side interior surface and a second side exterior surface; wherein said second side is separated from said first side; wherein said channel structure comprises a back side with a back side interior surface and a back side exterior surface; wherein said back side extends between said first and second sides; wherein said first side interior surface, said second side interior surface, and said back side interior surface define said interior space; wherein said first and second sides define at least a portion of an opening for the insertion/extraction of one of said data cartridges into/from said interior space; said channel structure comprising: a first channel structure that forms at least a portion of said back side; a second channel structure that forms at least a first portion of said first side and at least a second portion of said second side; and a coupler for connecting said first and second channel structures wherein said coupler comprises: a first coupler element associated with said first channel structure; and a second coupler element associated with said second channel structure and capable of engaging said first coupler element.

35. (Currently Amended) A The multi-piece data cartridge magazine, as claimed in claim 34, wherein: one of said first and second coupler elements comprises a spring element.

36. (Currently Amended) A The multi-piece data cartridge magazine, as claimed in claim 18 ~~34~~, wherein: said first channel structure comprises a first channel structure surface that forms a substantial portion of said back side of said channel structure; and said coupler comprises a recess/hole that is defined by said first channel structure surface.

37. (Currently Amended) A The multi-piece data cartridge magazine, as claimed in claim 18 ~~34~~, wherein: said first channel structure comprises a first channel structure surface that forms a substantial portion of said back side of said channel structure; and said coupler comprises a pair of recesses/holes that are each defined by said first channel structure surface.

38. (Currently Amended) A ~~The~~ multi-piece data cartridge magazine, as claimed in claim 18 ~~34~~, wherein: said first channel structure comprises a first channel structure surface that forms a substantial portion of said back side of said channel structure; and said coupler comprises a coupler element that extends away from said first channel structure surface.

39. (Currently Amended) A ~~The~~ multi-piece data cartridge magazine, as claimed in claim 18 ~~34~~, wherein: said first channel structure comprises a first channel structure surface that forms a substantial portion of said back side of said channel structure; and at least one of said couplers ~~comprises a pair of coupler elements that each~~ extend away from said first channel structure surface.

40-42. (Canceled)

43. (Currently Amended) A ~~The~~ multi-piece data cartridge magazine, as claimed in claim 40 ~~34~~, wherein: said first channel structure is made of metal; and said second channel structure is made of plastic.

44. (Currently Amended) A data cartridge library comprising: a frame that defines a top surface, a bottom surface that is spaced from said top surface, and a side surface that extends between said top and bottom surfaces; a data cartridge magazine; a drive, operatively attached to said frame, for writing data onto a recording medium located within a data cartridge and/or reading data from a said recording medium located within a said data cartridge; a transport assembly, operatively attached to said frame, for moving a said data cartridge between said data cartridge magazine and said drive, wherein said transport assembly comprises a picker that is capable of grasping a said data cartridge and an elevator that is capable of moving said picker; wherein said data cartridge magazine comprises: a first side, a second side that is separated from said first side, and back side that extends between said first and second sides; wherein said first, second and back sides define a channel with an interior space that is capable of accommodating a plurality of -

said data cartridges; a first channel structure that forms at least a portion of said back side; a second channel structure that forms at least a portion of at least one of said first and second sides; and a coupler for connecting said first and second channel structures; wherein said frame comprises at least a portion of said first channel structure.

45. (Currently Amended) A The data cartridge library, as claimed in claim 44, wherein: a portion of said frame defines said side surface; and at least a portion of said first channel structure defines at least a portion of said side surface.

46. (Currently Amended) A The data cartridge library, as claimed in claim 44, wherein: said first channel structure is made of metal.

47. (Currently Amended) A The data cartridge library, as claimed in claim 44, wherein: said second channel structure is made of the same class of materials as is used to make a housing of a said data cartridge.

48. (Currently Amended) A The data cartridge library, as claimed in claim 44, wherein: said second channel structure is made of plastic.

49. (Currently Amended) A The data cartridge library, as claimed in claim 44, wherein: said second channel structure comprises a retainer with a surface for engaging a said data cartridge and spring element for urging said surface into engagement with a said data cartridge.

50. (Currently Amended) A data cartridge library comprising: a frame that defines an interior space; a data cartridge magazine, located within said interior space, that is capable of holding a plurality of data cartridges; a drive bay, located within said interior space, ~~for accommodating at least one full-height drive~~ comprising a first opening, a second opening, and at least one drive space that extends between said first and second openings wherein said drive space is capable of accommodating either a full-height drive

or when said drive space is separated by a partition supported by a partition mount, two half-height drives; a transport assembly, located within said interior space, for moving a one of said plurality of data cartridges between said data cartridge magazine and a one of said drives that might be located in said drive bay, wherein said transport assembly comprises a picker that is capable of grasping a one of said plurality of data cartridges and an elevator for moving said picker; ~~wherein said drive bay defines a first opening, a second opening, and a drive space that extends between said first and second openings; wherein said first opening allows said transport assembly to insert/retract a one of said plurality of data cartridges into/from any of said drives that is/are located in said drive space; wherein said second opening allows a user to install/remove a one of said drives into/from said drive space bay; wherein said drive bay comprises a partition mount for supporting a partition that divides said drive space such that a full-height drive space that is located within said drive space and capable of accommodating a full-height drive provides first and second half-height drive spaces that are each capable of accommodating a half-height drive.~~

51. (Currently Amended) A The data cartridge library, as claimed in claim 50, further comprising: a said partition for engaging said partition mount in said drive bay.

52. (Currently Amended) A The data cartridge library, as claimed in claim 50, wherein: said ~~full-height drive~~ space is capable of accommodating: (a) a said full-height drive that is located within a full-height drive sled or (b) when a said partition is engaged to said partition mount ~~within said drive bay~~, a first and second half-height drive that is are each disposed ~~located~~ within a first and second half-height drive sled ~~that is located with said first half-height drive space, and a second half-height drive that is located within a second half-height drive sled that is located within said second half-height drive space.~~

53. (Currently Amended) A The data cartridge library, as claimed in claim ~~50~~52, wherein: said drive bay space comprises: a first and second drive bay-electrical connector wherein each connector is adapted to interface one of said full-height or half-height

~~drives, that interfaces to said first half height drive space; and a second drive bay electrical connector that interfaces to said second half height drive space.~~

54. (Currently Amended) ~~A~~ The data cartridge library, as claimed in claim 53, wherein: said first and second drive bay electrical connectors each face towards said second opening.

55. (Currently Amended) A data cartridge library comprising: a frame that defines an interior space; a data cartridge magazine, located within said interior space, that is capable of holding a plurality of data cartridges; a drive bay, located within said interior space, ~~for~~ capable of accommodating a plurality of full-height drives and half-height drives wherein two half-height drives is substantially dimensionally equivalent to one full-height drive; a transport assembly, located within said interior space, for moving a one of said plurality of data cartridges between said data cartridge magazine and a one of said drives that might be located in said drive bay, wherein said transport assembly comprises a picker that is capable of grasping a one of said plurality of data cartridges and an elevator for moving said picker; wherein said drive bay defines a first drive space that extends between a first drive space first opening and a first drive space second openings and is capable of accommodating a first full-height drive; wherein said drive bay defines a second drive space that extends between a second drive space first opening and a second drive space second openings and is capable of accommodating a second full-height drive; wherein said first drive space first opening allows said transport assembly to insert/retract a one of said plurality of data cartridges into/from a one of said drives that is located in said first drive space; wherein said first drive space second opening allows a user to install/remove a one of said drives into/from said first drive space; wherein said second drive space first opening allows said transport assembly to insert/retract a one of said plurality of data cartridges into/from a one of said drives that is located in said second drive space; wherein said second drive space second opening allows a said user to install/remove a one of said drives into/from said second drive space; wherein said drive bay comprises a partition mount for supporting a partition that

divides said first drive space into first and second half-height drive spaces that are each capable of accommodating a one of said half-height drives.

56. (Currently Amended) A ~~The~~ data cartridge library, as claimed in claim 55, further comprising: a said partition engaging said partition mount.

57. (Currently Amended) A ~~The~~ data cartridge library, as claimed in claim 56, further comprising: a one of said half-height drives located in one of said first and second half-height drive spaces.

58. (Currently Amended) A ~~The~~ data cartridge library, as claimed in claim 56, further comprising: a first half-height drive located in said first half-height drive space; and a second half-height drive located in said second half height drive space.

59. (Currently Amended) A ~~The~~ data cartridge library, as claimed in claims 57 or 58, further comprising: a one of said first full height drives located in said second drive space.

60. (Currently Amended) A ~~The~~ data cartridge library, as claimed in claim 55, further comprising: a first full height drive located in said first drive space; and a second full height drive located in said second drive space.

61. (Currently Amended) A data cartridge library comprising: a frame that defines an interior space; data cartridge space, located within said interior space, for providing data cartridge storage locations for at least two ~~all of the data cartridges that the library is capable of storing~~; drive space, located within said interior space, for providing drive locations for at least two ~~all of the drives that the library is capable of accommodating~~; transport assembly space, located within said interior space, for operationally ~~accommodating the operation of~~ a picker and an elevator capable of moving ~~in moving a one of said data cartridges~~ between any of said data cartridge storage locations in said

data cartridge space and any of said drive locations in said drive space; power supply space, located within said interior space, for accommodating ~~all of the~~ power supplies ~~that the library is capable of accommodating~~; circuitry space, located within said interior space, for accommodating circuitry for distributing power and controlling said transport assembly; and a universal bay, located within said interior space, that defines a universal space that is capable of accommodating electronic circuitry other than said electronic circuitry that is located in said circuitry space and that does not comprise said frame, said data cartridge space, said drive space, said transport assembly space, said power supply space or said circuitry space.

62. (Currently Amended) A The data cartridge library, as claimed in claim 61, wherein: said universal bay comprises a connector board with one or more first electrical connectors for establishing electrical connections with said electronic circuitry that may be located in said universal space.

63. (Currently Amended) A The data cartridge library, as claimed in claim 62, further comprising: a card cage, located in said universal space, with one of more second electrical connectors that are each capable of establishing an electrical connection with a corresponding one of said one or more first electrical connectors associated with said connector board.

64. (Currently Amended) A The data cartridge library, as claimed in claim 63, wherein: said card cage comprises a compact peripheral component interconnect.

65. (Currently Amended) A The data cartridge library, as claimed in claim 63, wherein: said card cage comprises one of the following: a 3 U high card cage and a 6 U high card cage.

66. (Currently Amended) A The data cartridge library, as claimed in claim 62, further comprising: a quad interface processor located in said universal space, with one of more

second electrical connectors that are each capable of establishing an electrical connection with a corresponding one of said one or more first electrical connectors associated with said connector board.

67. (Currently Amended) A The data cartridge library, as claimed in claim 61, wherein: said universal bay comprises: a first connector board with one or more first electrical connectors for establishing electrical connections with first electronic circuitry that may be located in a first universal space within said universal space; and a second connector board with one or more first electrical connectors for establishing electrical connections with second electronic circuitry that may be located in a second universal space within said universal space that does not include said first universal space.

68. (Currently Amended) A The data cartridge library, as claimed in claim 67, wherein: said universal bay comprises a partition mount for supporting a partition that divides said universal space into said first and second universal spaces.

69. (Currently Amended) A The data cartridge library, as claimed in claim 68, wherein: said universal bay comprises a said partition for engaging said partition mount to divide said universal space into said first and second universal spaces.

70. (Currently Amended) A The data cartridge library, as claimed in claim 67, further comprising: a first card cage, located in said first universal space, with one of more second electrical connectors that are each capable of establishing an electrical connection with a corresponding one of said one or more first electrical connectors associated with said first connector board; and a second card cage, located in said second universal space, with one of more second electrical connectors that are each capable of establishing an electrical connection with a corresponding one of said one or more first electrical connectors associated with said second connector board.

71. (Currently Amended) A The data cartridge library, as claimed in claim 67, further

comprising: a first quad interface processor, located in said first universal space, with one of more second electrical connectors that are each capable of establishing an electrical connection with a corresponding one of said one or more first electrical connectors associated with said first connector board; and a second quad interface processor, located in said second universal space, with one of more second electrical connectors that are each capable of establishing an electrical connection with a corresponding one of said one or more first electrical connectors associated with said second connector board.

72. (Currently Amended) A The data cartridge library, as claimed in claim 67, further comprising: a card cage, located in said first universal space, with one of more second electrical connectors that are each capable of establishing an electrical connection with a corresponding one of said one or more first electrical connectors associated with said first connector board; and a quad interface processor, located in said second universal space, with one of more second electrical connectors that are each capable of establishing an electrical connection with a corresponding one of said one or more first electrical connectors associated with said second connector board.

73-79. (Canceled)

80. (Currently Amended) A data cartridge library comprising: a frame that defines an interior space; a data cartridge magazine, operatively attached to said frame and located within said interior space, for providing a plurality of data cartridge storage spaces; a drive, operatively attached to said frame and located within said interior space, for writing data onto a recording medium located within a data cartridge and/or reading data from a said recording medium located within a said data cartridge; a picker that is capable of grasping a said data cartridge, releasing a said grasped data cartridge, inserting a said grasped data cartridge into a one of said data cartridge storage spaces in said data cartridge magazine, inserting a said grasped data cartridge into said drive, retracting a said grasped data cartridge from a one of said data cartridge storage spaces in said data cartridge magazine, and retracting a said grasped data cartridge from said drive; and an

elevator for moving said picker such that said picker can perform grasping, retracting and inserting operations in the moving of a said data cartridge between any one of said data cartridge storage spaces and said drive; and wherein said elevator comprises: an electric motor; an elevator carriage have a first end and a second end that is separated from said first end; a first drive system for applying a force to said first end of said elevator carriage; a second drive system for applying a force to said second end of said elevator carriage; and a shaft for transferring a force from said first drive system to said second drive system.

81. (Currently Amended) A The data cartridge library, as claimed in claim 80, wherein: said shaft comprises: a first shaft portion that is operatively connected to said first drive system; a second shaft portion that is operatively connected to said second drive system; and a user-actuatable connector for connecting said first shaft portion and said second shaft portion.

82. (Currently Amended) A The data cartridge library, as claimed in claim 81, wherein: a slidable spline sleeve associated with the other of said first and second shaft portions.